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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,420	10/15/2003	Masatoshi Takeda	L8612.03104	4383
7590 12/09/2005			EXAMINER	
STEVENS, DAVIS, MILLER & MOSHER, LLP.			LEE, KEVIN L	
Suite 850			ART UNIT	
1615 L Street, N.W.			PAPER NUMBER	
Washington, DC 20036			3753	

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/684,420	<b>Applicant(s)</b> TAKEDA ET AL.	
	<b>Examiner</b> KEVIN L. LEE	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 11-15 and 23-44 is/are rejected.
- 7) ☒ Claim(s) 5-10 and 16-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>June 22, 2004, October 15, 2003</u>                                       | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of the Group I invention (claims 1-18 and 23-44) in the reply filed on November 18, 2005 is acknowledged. The traversal is on the ground(s) that the search for all pending claims together would not be burdensome and that the claims recite closely related subject matter. This is not found persuasive because the search for the Group II invention would be different than the search required for the search of the Group I invention. The Group I invention recites a valve unit including a valve element accommodated in a chamber, the chamber being subjected to vibration to cause the valve element to move from a closed position to an open position. The Group II invention recites a valve unit comprising a valve element accommodated in a chamber and a detection means for measuring a transit time of the fluid between two points in a channel. The inventions are substantially different and are not closely related. The search for the two inventions would be completely separate and would be in different classes. Therefore, the search of the invention would be burdensome to the examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claims 19-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or

linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on November 18, 2005.

### ***Claim Objections***

Claim 27 is objected to because "excitingmeans" is a typographical error. In claim 29, the parenthetical expression "vibration" should be deleted.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-25 and 30-44 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 23 and 30 each recite that the opening/closing of the outlet is accomplished by varying "a frequency and/or an amplitude of a vibration" and by varying an amplitude of the valve element by the varied vibration. The recitation of "and/or" in line 6 of claim 23 and line 10 of claim 30 renders the claims indefinite because if the varying of the amplitude of a vibration is not chosen (only the frequency is varied), then the recitation of "the varied vibration" in the last line of the claims lacks antecedent basis. In claim 25, "said valve-element urging means" lacks antecedent basis. In claim 33, the recitation of "of the main vibration of the main vibration" is vague and indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 11-15, 23, 26, 27, 29 and 30 rejected under 35 U.S.C. 102(b) as being anticipated by Hall et al (U.S. Patent No. 4,166,605). The patent to Hall et al discloses a valve unit comprising a chamber having an inlet (28) and an outlet (16) for a fluid and a valve element (10) accommodated in the chamber. The outlet has an inclined portion. The valve element (10) is normally located at the inclined portion (valve seat) due to fluid pressure to close the outlet (16) but is actuated by the influence of vibration to open the outlet, see col. 2, lines 48-65. The flow of liquid through the outlet (16) can be controlled by varying the pulse width or frequency of the vibration, col. 2, line 66 thru col. 3, line 5.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 28 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. The vibration in the valve body is generated by a driving means (8) that is attached to the body (4), col. 2, lines 34 and 35. It would have been an obvious design expedient to one of ordinary skill in the art to have the driving means (8) detachable so that the driving means can be readily separated from the valve body for repair or adjustment.

#### ***Allowable Subject Matter***

Claims 5-10 and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN L. LEE whose telephone number is (571) 272-4915. The examiner can normally be reached on MONDAY-THURSDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN BLAU can be reached on (571) 272-4406. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Kevin Lee  
Primary Examiner